Comparative radar images may detect ice risk

The two radars have been mounted on a single pedestal at the Marshall facility. They are precisely aligned to look at the same defined area at the same time. Researchers will compare the radar images with data collected from a University of North Dakota Citation research airplane flying in the test area to determine whether the radar system is pinpointing water droplets.

Scientists and engineers at the National Center for Atmospheric Research are deploying S-Polka through the end of March at Marshall facility, southeast of Boulder. The system consists of a powerful polarised radar, S-Pol, which operates at a frequency of 3,000MHz, and a polarised Ka-band radar, which operates at 35,000MHz. The S-Pol radar produces detailed images of clouds and precipitation, whereas the Ka-band radar can detect weaker clouds that are not precipitating. By comparing images from each radar, researchers hope to find areas in clouds that harbor water droplets.

After data collectection, the researchers will focus on identifying and measuring droplets within the radar images accurately. If all goes well, the instrument will undergo final tests in a couple of years, before being made available to airports.

Filtronic selected as strategic supplier of WCDMA PAs

Filtronic plc, designer and manufacturer of customised microwave electronic subsystems for the wireless telecommunications and defence industries, has been selected by a new OEM customer, as a strategic supply partner for production quantities of integrated radio frequency head units for use in 3G WCDMA base stations.

This follows Filtronics' news in September 2003 and deliveries subsequently by Filtronic of initial quantities of the first of two products.

Two versions will be required, with production of the V1 due to commence in the second half of calendar year 2004.

Before volume deliveries start, Filtronic must finalise certain outstanding technical and commercial matters.

The RF head units to be supplied by Filtronic contain power amplifiers, which incorporate the unique, high power, compound semiconductor transistors manufactured in Filtronic's own fab at Newton Aycliffe.

The products also contain the up/down converters and the high-speed digital CPRI baseband interface and processing capability.

China builds world's largest SiC base

Yongdeng county, in northwest China's province of Gansu, is starting a project to make it the largest silicon carbide base in the world. Projected annual production capacity is around 130,000t.

The second-phase silicon carbide project, funded by Lanzhou Heqiao Silicon Co Ltd, will start soon in the county as the company, based in the provincial capital, Lanzhou, recently signed a deal with the county government.

The new project will initially produce 80,000t of SiC a year, company sources said. LHS completed the first phase of the silicon carbide project in 1989, which had an annual capacity of 50,000t, ranking it world third. It exports products to the US, Japan, Republic of Korea and some southeast Asian countries.

A bluish-black crystalline compound, SiC is one of the hardest known substances, used as an abrasive and heat-refractory material and in single crystals as semiconductors, especially in high-temperature applications.

US to invest £9.6m in west Belfast

IceMOS Technology Corp based in Delaware USA will develop a new plant to manufacture components for the semiconductor industry, investing £9.6m in a new west Belfast operation with the creation of 52 new jobs.

Sam Anderson, IceMOS, CEO says: "We know that we can recruit highly skilled and experienced engineers in Northern Ireland and believe that offers us the opportunity to greatly advance our super-junction technology R&D.

"This technology is used in building advanced power semiconductor devices that can handle more power and operate at higher switching frequency than conventional silicon high-voltage power devices. It offers improved energy efficiency and environmental benefits and has enormous future sales potential."

As well as manufacturing, the company said it plans to carry out further research on super junction technology at the Belfast facility, which should lead to the development of new devices.

This research will be in association with Queen's University's Semiconductor Research Centre.

Current EPSRC grants are £430,000 for "SiGe-on-insulator Technology for high speed,low power mobile communication applications;" £320,000 for "Thin silicon-on-insulator technology" and £200,000 on "Millimeter wave modules using silicon interconnect." Other funds include: £300,000 Seagate & IRTU for The Segate Consortium and £420,000 IRTU "Northern Ireland Centre for Advanced Materials."